

In the Claims

1. (Currently Amended) ~~A diffractometer~~Equipment comprising:
an analytical unit (9) supporting a source (7) of a radiation beam, having a collimation axis (10); and a radiation beam detector (8) having a reception axis (11);
said collimation (11) and reception (10) axes converging in at a centre of the diffractometer (12);
said centre of the diffractometer being which is fixed with respect to said analytical unit (9);
means (16, 31, 32, 33) for moving said analytical unit ~~in the space~~;
means (20, 20') for rotating said source and said radiation beam detector around said centre of the diffractometer, so that said collimation axis (11) and said reception axis (10) are kept in an equatorial plane, fixed with respect to said ~~first~~ analytical unit (9);
a support and movement structure (14) supporting said analytical unit (9);
means (27) for moving said analytical unit with respect to said support and movement structure (14), so that the said analytical unit (9) can rotate around an equatorial axis (15) contained in said equatorial plane and passing through said centre of the diffractometer (12);
~~characterised in that~~ said means (27) for moving said analytical unit with respect to said support and movement structure permitting (14) ~~permit~~ the rotation of the equatorial plane around said equatorial axis (15), without said support and movement structure changing ~~that the latter changes~~ its position ~~in the space~~.

2. (Currently Amended) ~~The diffractometer~~Diffractometer ~~Equipment~~ according to claim 1, wherein said means for moving said analytical unit enables rotation of ~~in the space~~ (16, 30) ~~are~~ ~~capable to rotate~~ said analytical unit around an axis (4) perpendicular to said equatorial axis.

3. (Currently Amended) ~~The diffractometer~~Diffractometer ~~Equipment~~ according to claim 1 ~~or 2~~, wherein said the source (7) is a source of electromagnetic radiation, ~~or~~ acoustic radiation, or radiation consisting of particle beams and said the detector (8) is a detector of electromagnetic radiation, ~~or~~ acoustic radiation, or radiation consisting of particle beams.

4. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, wherein said the source (7) is a x-ray source and said the detector (8) is a x-ray detector.

5. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, wherein said means (16, 31, 32, 33) for moving said analytical unit (9) in the space, ~~are suitable to permit to change a the position of said centre of the diffractometer (12) by rotation or translation of said analytical unit.~~

6. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, wherein said equatorial axis (15) is perpendicular to a symmetry plane of said analytical unit (9).

7. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, wherein said the rotation around said equatorial axis (15), is possible along an arc of at least 10°, ~~preferably at least 20°.~~

8. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 3, wherein said detector (8) is a proportional ~~ionisation~~ ionization counter.

9. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, comprising a pointing device placed on said analytical unit (9), for positioning said analytical unit with respect to an element to be analysed.

10. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 9, wherein said pointing device comprises two lasers and a telecamera.

11. (Currently Amended) ~~The diffractometer~~Diffractometer according to claim 1 ~~any of the preceding claims~~, wherein said analytical unit is formed as ~~has the form of~~ a circular arc.

12. (Currently Amended) ~~A Diffractometry~~diffractometry method comprising:

positioning a diffractometer ~~comprising~~ including an analytical unit supporting a source of a radiation beam, having a collimation axis and a radiation beam detector having a reception axis, ~~the said~~ collimation and reception axes converging ~~in~~ at a centre of the diffractometer, ~~the centre of the diffractometer being which is fixed~~ with respect to ~~the~~ said analytical unit, means for moving ~~the said~~ analytical unit ~~in the space~~, means for rotating ~~the said~~ source and ~~the radiation beam~~ detector around ~~the said~~ centre of the diffractometer so that ~~the said~~ collimation axis (11) and ~~the said~~ reception axis (10) are kept in an equatorial plane, fixed with respect to ~~the said first analytical unit (9)~~, a support and movement structure (14) supporting ~~the said~~ analytical unit (9), means (27) for moving ~~the said~~ analytical unit with respect to ~~the said~~ support and movement structure (14), so that the analytical unit (9) can rotate around an equatorial axis (15) contained in ~~the said~~ equatorial plane and passing through ~~the said~~ centre of the diffractometer (12), ~~the said~~ means (27) for moving ~~the said~~ analytical unit with respect to ~~the said~~ support and movement structure permitting (14) the rotation of the equatorial plane around ~~the said~~ equatorial axis (15), without ~~the support and movement structure changing that the latter changes its position in the space~~, and

~~characterised in that it comprises~~ positioning ~~the said~~ centre of the diffractometer on a point of the surface of an element to be analysed analyzed.

13. (Currently Amended) ~~The method~~ Method according to claim 12, wherein ~~the said~~ analytical unit has a symmetry plane and ~~the said~~ plane is placed perpendicularly to the surface of the element to be analysed analyzed at the point coincident with ~~the said~~ centre of the diffractometer.

14. (Currently Amended) ~~The method~~ X-ray diffractometry method according to claim 12 ~~or 13~~, wherein the radiation beam is an x-ray beam.

15. (Currently Amended) ~~The method~~ Method according to ~~any claim from 12 to 14~~, wherein ~~the said~~ element to be analysed analyzed is not mechanically linked to the diffractometer.